

Application No. 09/875,434

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Remarks

Claims 1-18 remain in this application. Claims 1, 9 and 14 have been amended. Claims 1, 9 and 14 are independent claims.

A. Basis for Rejection of Claims

In the Office action dated December 23, 2004, claims 1-18 were rejected. Claims 1-7 were rejected under 35 U.S.C. 101 for allegedly containing non-statutory subject matter and for not limiting the claims to practical applications. Claims 1-7 were also rejected under 35 U.S.C. 112 for not disclosing how to practice the invention.

Claims 2-7 were further rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Shaffer et al. in view of Wical et al. and further in view of Provino et al. Claims 9, 14-15, 17 and 18 were rejected under 35 U.S.C. 102(e) as being anticipated by Shaffer et al. Claims 1, 8, 10-13 and 16 were rejected under 35 U.S.C. 103(a) as allegedly being obvious over Shaffer et al. in view of Wical et al.

B. Patentability of Claims 1-7 under 35 U.S.C. 101 and 112

In response to the Office action's rejection of claims 1-7 as containing non-statutory subject matter and not being limited to a practical application, Applicants have amended claim 1 to conform to a Beauregard claim format. Specifically, amended claim 1 describes a computer readable medium having computer executable software for classifying files of non-textual subject data. The claimed invention includes a system decision module integrated within said computer executable software. The software is configured to include (a) a task component, (b) an algorithmic component, (c) a sub-algorithmic component and (d) a learning component. The software is used in assigning classes to individual files of non-textual subject matter.

Claim 1, as amended, describes a program storage device readable by a machine (computer readable medium). It tangibly embodies program instruction executable by the machine (computer executable software) to perform the functions of the program (a system decision module integrated within the computer executable software configured to implement components (a)-(d) of the system decision module). It is respectfully asserted

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that amended claim 1 conforms to a Beauregard claim format and contains statutory subject matter.

The Office action asserts that the combination of the sequential progression of decision making, the algorithmic component and the learning component is just an abstract idea. In response, Applicants have amended claim 1 to clarify the practical use for the claimed invention. Specifically, the task component has a plurality of classification tasks arranged in a sequential progression of decision making, including a plurality of classification nodes for assigning classes to an individual file of said files of non-textual subject data. The assigning of classes to an individual file of non-textual subject data is a practical application of the invention, whereas previously the sequential progression of decision making for assigning classes was for no stated particular subject or purpose.

Applicants respectfully assert that claim 1, as amended, meets the statutory obligations as specified by 35 U.S.C. 101. It is further asserted that amended claim 1 meets the burden of disclosing a practical utility for the invention, as required by 35 U.S.C. 112. Reconsideration is requested.

C. Patentability of Claim 1 under 35 U.S.C. 103(a)

Item 22 of the Office action cites Shaffer et al. as disclosing a sequential progression of decision making that includes a plurality of classification nodes for assigning classes to files of non-textual subject data. The Office action alleges that the processing steps of Shaffer are equivalent to nodes. The processing goals are alleged to be equivalent to the assigning of classes to files of non-textual subject data and determining which node or step in the progression is to be encountered next. Furthermore, the processing modules are alleged to be equivalent to the algorithms used to assign classes and determine which node is to be encountered next.

In response, Applicants have amended claim 1 to further distinguish the invention from the prior art. Component (b) of claim 1 has been amended to describe an algorithmic component accessed by each said classification node for selecting a specific algorithm for each said classification task, said specific algorithm being configured to execute at least one of content-based analysis for processing content-based data and meta-data analysis for processing meta-data. Support for the amendment resides on page 3, lines 17-19, wherein the classification tasks are described as nodes

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within the task tree that invoke algorithms for determining whether classes should be assigned to image files. Each classification task includes an algorithm selected from the algorithmic component 46 of the system decision module 30 of Fig. 2 (page 7, lines 13-15). Additional support can be found on page 8, lines 15-17, wherein the algorithmic component 46 of Fig. 2 selects which algorithms to perform for a given classification task.

There is no teaching in Shaffer et al. regarding the selection of algorithm(s) to be utilized at any particular process step. It is understood that the algorithms available at a particular process step, such as grouping, are applicable to the grouping process. Examples of these types of algorithms are identified at paragraph 31, lines 46-53. Organization schemes would include organizing by events such as birthday party, vacation, holiday, etc. Customer requested products could also dictate grouping parameters, such as grouping by location in a theme park, graduation, outdoor or indoor, etc. Shaffer et al. teaches that a variety of software algorithms exist which operate on meta-data associated with an image, where the grouping process is similar to searching a media database. However, Shaffer et al. does not teach that the grouping step invokes an algorithm by accessing an algorithmic component which selects a specific algorithm, for performing the classification task of that node.

The Office action also alleges that Shaffer et al. teaches (paragraph 31, lines 55-65) the use of sub-algorithmic routines in which one class of algorithm, processing of meta-data, can call upon another class of algorithm, such as image processing algorithms, to identify objects. In response, Applicants have amended component (c) of claim 1 to describe a sub-algorithmic component for selecting at least one sub-algorithmic routine for said specific algorithm having a plurality of sub-algorithmic routines, said sub-algorithmic routine being selected based on said selecting said specific algorithm. Support for the amendment resides on page 9, lines 4-5 and 6-8, wherein the algorithm corresponding to each classification task (node) comprises a number of sub-algorithmic routines. The selection of which sub-algorithmic routine to implement is determined by the sub-algorithmic component.

As cited by the Office action, a first class of algorithms applicable to grouping, such as processing meta-data, calls upon a second class of algorithms applicable to grouping such as image processing algorithms. However, in this instance one class of algorithms selects a

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second class of algorithms for use with itself. This is not the method described by Applicants' invention. Applicants' invention has a specifically selected algorithm (from component (b)) comprised of a number of sub-algorithmic routines. A sub-algorithmic component selects at least one of the sub-algorithmic routines for a specific algorithm having a plurality of sub-algorithmic routines. The specific algorithm is not selecting from among a plurality of sub-algorithmic routines. Shaffer et al. teaches that there are algorithms applicable to grouping that can call upon other algorithms for grouping, but there is no teaching that a sub-algorithmic component selects a sub-algorithmic routine for a specific grouping algorithm having a plurality of grouping sub-algorithms.

Applicants respectfully assert that claim 1, as amended, is materially different from the cited reference of Shaffer et al. Wical et al. was cited for its teachings relating to a learning system. Even if Shaffer et al. were modified in view of Wical et al., it would not teach Applicants' invention and, therefore, a *prima facie* case of obviousness does not exist. An allowance for patentability is respectfully requested.

D. Patentability of Claim 9 under 35 U.S.C. 102

Item 16 of the Office action alleges that paragraph 32 of Shaffer et al. anticipates the step of Applicants' invention which progresses a file of non-textual subject data through a sequential progression of decision making, including selecting from among the alternative algorithms at a multi-algorithmic decision node, the selection being at least partially based on prior determinations at previously encountered task nodes in the sequential progression. In response, Applicants have amended claim 9 to further distinguish the claimed invention from the cited reference. Specifically, progressing said file through said sequential progression of decision making, includes (a) selecting from among said alternative algorithms at said multi-algorithmic decision nodes, and (b) utilizing an algorithmic component to perform said selection, said selection being at least partially based on prior determinations at previously encountered task nodes in said sequential progression.

Support for the amendment resides on page 8, lines 15-16 and 19-20, wherein the algorithmic component selects which algorithm to perform for a given classification task (i.e., task node). The algorithmic component

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makes the selections based on factors such as knowledge of previous outcomes.

According to the Office action, Shaffer et al., in paragraph 32, teaches that the annotation step is equivalent to a task node, the annotation module is equivalent to annotation algorithms, and the annotation node contains a plurality of annotation algorithms (who, what, where, when and why) that comprise a plurality of classifiers available at that node. However, there is no teaching that the algorithm selected to process the image data file is selected by an algorithmic component or that the algorithm utilized is at least partially based on prior determinations at previously encountered nodes. Shaffer et al. does teach that who, what, where, when and why information can be derived from meta-data generated in previous steps or task nodes. But this is merely the gathering of information that may be used to classify an image data file if any one or a combination of annotation algorithms processes an image data file. This is not the equivalent to selecting an algorithm by an algorithmic component based on the determinations of previously encountered nodes.

Shaffer et al. also teaches, in paragraph 29, that active process goals are available at each process step (task node). The process goals are updated at the conclusion of the processing of a particular step. These updated active processing goals serve as input processing goals for subsequent steps (task nodes). Even though the updated process goals may result in the implementing of the annotation module (algorithm), since the updated goals serve as inputs to a process step or task node, any selection of a module (algorithm) to process a file of image data would be performed by the node, not an algorithmic component in which the selection is at least partially based on prior determinations at previously encountered task nodes in the sequential progression. Therefore, Applicants respectfully assert that claim 9, as amended, is not anticipated by Shaffer et al. Reconsideration of amended claim 9 and its dependent claims is requested.

E. Patentability of Claim 14 under 35 U.S.C. 102(a)

Item 17 of the Office action alleges that Shaffer et al. anticipates the method of classifying a file of non-textual subject data described in claim 14, which includes subjecting an image data file to transformation functions to generate transformed data, performing feature analysis on the transformed

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image data to derive feature characteristics of the file, and applying an algorithmic routine utilizing the feature data to generate a class identifiable with said file. In response, Applicants have amended the claim to include the step of storing said transformed image data and said feature data characteristic of said image file for use by other said classification nodes. Support for the amendment resides on page 9, lines 15-18 wherein the results of the sub-algorithmic routines are stored in a data component. The intermediate results can be reused at a later time.

Shaffer et al. teaches that image files may be subject to data transformation functions such as the image processing files in paragraph 31, lines 61-64. Shaffer et al. also teaches that feature analysis may be done on image files such as facial recognition programs identified in paragraph 28. In addition, Shaffer et al. teaches that the data resulting from subjecting an image file to a data transformation function or feature analysis performed on an image file may be stored in a data store 20 of Fig. 2. In paragraph 25, lines 36 and 37, this meta-data is stored and associated with the available pixel data.

However, Shaffer et al. does not teach that the transformed image data and feature data characteristic derived at one process step are used by another process step. Shaffer et al. does teach that the processing goals for each process step (node) are updated at the completion of a process step and that the processing goals serve as inputs for the next step. However, there is no teaching that the updated processing goals of a classification node indicate that stored transformed image data or stored feature data characteristic of one node is to be used by other classification nodes in the identifying of a class for an image file.

Applicants respectfully assert that a material difference exists between the cited prior art and the amended independent claim 14 and is in a condition of allowance for patentability. Even if one were to modify the teachings of Shaffer et al. in view of selected teachings of Wical et al., the amended claims are patentably distinguished from the prior art. Reconsideration for patentability of amended claim 14 and its dependent claims is respectfully requested.

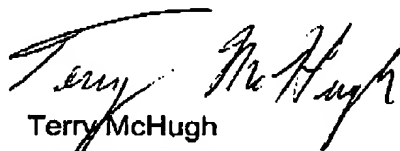
Applicants respectfully request reconsideration of the claims in view of the amendments and remarks made herein. A notice of allowance is earnestly solicited. In the case that any issues regarding this application can

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be resolved expeditiously via a telephone conversation, Applicants invite the Examiner to call Terry McHugh at (650) 969-8458.

Respectfully submitted,



Terry McHugh
Reg. No. 33,261

Date: March 23, 2005

Telephone: (650) 969-8458

Facsimile: (650) 969-6216